Claims

1. A method for transmitting data from an analogue modem to a digital modem through an analogue channel for minimising the effect of noise and/or other impairments in the analogue channel, the method comprising the steps of:

computing mid points between adjacent codec levels, and

computing constellation points of a constellation for use in transmission of data through the analogue channel, the constellation points being computed so that the mid points between adjacent computed constellation points coincide with respective computed mid points between adjacent codec levels.

2. A method as claimed in Claim 1 in which the constellation points are computed in response to the noise and/or other impairments in the analogue channel.

3. A method as claimed in Claim 1 in which the constellation points are computed in the digital modem.

4. A method as claimed in Claim 3 in which the constellation, the constellation points of which are computed in the digital modem is transmitted to the analogue modem through the analogue channel.

5. A method as claimed in Claim 3 in which the method further comprises the step of computing the values of the mid points between the adjacent computed constellation points, and transmitting the constellation by transmitting the respective

mid point values of the constellation points to the analogue modem, along with a single constellation point for facilitating decoding of the constellation.

6. A method as claimed in Claim 5 in which the single constellation point is selected from one of the largest and the smallest constellation points.

7. A method as claimed in Claim 1 in which the data to be transmitted by the analogue modem through the analogue channel to the digital modem is encoded in the analogue modem into constellation points of the computed constellation.

8. A method as claimed in Claim 1 in which at least some of the constellation points coincide with codec levels.

9. A method as claimed in Claim 8 in which each constellation point coincides with a codec level.

10. A method as claimed in Claim 1 in which none of the computed constellation points coincide with a codec level.

11. A method as claimed in Claim 1 in which the constellation is a one dimensional constellation.

12. A method as claimed in Claim 1 in which the method is adapted for use in telecommunications transmission.

13. A method as claimed in Claim 1 in which the method is adapted for use with a telecommunications transmission system operating under the V.92 Standard.

14. Apparatus for transmitting data from an analogue modem to a digital modem through an analogue channel for minimising the effect of noise and/or other impairments in the analogue channel, the apparatus comprising:

a means for computing mid points between adjacent codec levels, and

a means for computing constellation points of a constellation for use in transmission of the data through the analogue channel, the constellation points being computed so that the mid points between adjacent computed constellation points coincide with respective computed mid points between adjacent codec levels.

15. Apparatus as claimed in Claim 14 in which the means for computing the constellation points is responsive to the noise and/or other impairments in the analogue channel.

16. Apparatus as claimed in Claim 14 in which the means for computing the constellation points is located in the digital modem.

17. Apparatus as claimed in Claim 16 in which the constellation, the constellation points of which are computed in the digital modem is transmitted to the analogue modem through the analogue channel.

18. Apparatus as claimed in Claim 17 in which the apparatus further comprises a means for computing the values of the mid points between the adjacent computed constellation points, and transmitting the constellation by transmitting the respective mid point values of the constellation points to the analogue modem, along with a single constellation point for facilitating decoding of the constellation.

19. Apparatus as claimed in Claim 18 in which the single constellation point is selected from one of the largest and the smallest constellation points.

20. Apparatus as claimed in Claim 14 in which the constellation is a one dimensional constellation.

21. Apparatus as claimed in Claim 14 in which the apparatus is adapted for use with a telecommunications transmission system operating under the V.92 Standard.

22. A telecommunications system comprising an analogue modem for transmitting data through an analogue channel for reception by a digital modem, the digital modem comprising apparatus as claimed in Claim 14.

23. A telecommunications system as claimed in Claim 22 in which the apparatus operates in accordance with the method as claimed in Claim 1.